

MC4558

LINEAR INTEGRATED CIRCUIT

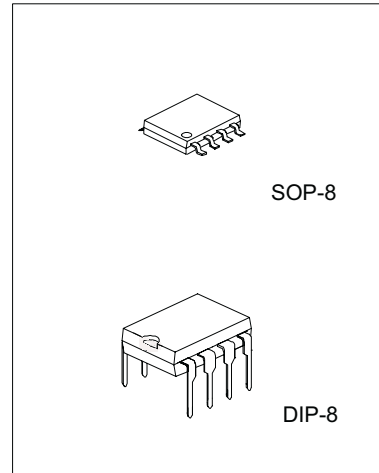
DUAL OPERATIONAL AMPLIFIER

DESCRIPTION

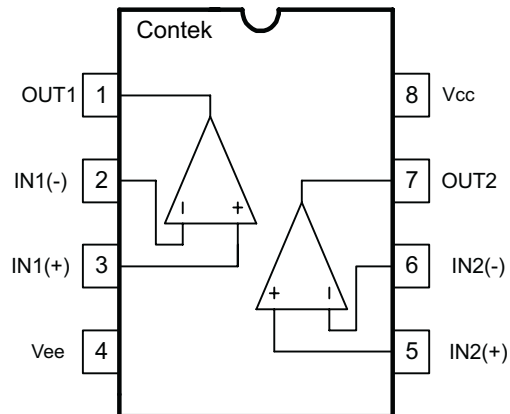
The Contek MC4558 is a monolithic integrated circuit designed for dual operational amplifier.

FEATURES

- *No frequency compensation required
- *No latch-up
- *Large common mode and differential voltage range
- *Parameter tracking over temperature range
- *Gain and phase match between amplifiers
- *Internally frequency compensated
- *Low noise input transistors



PIN CONFIGURATIONS



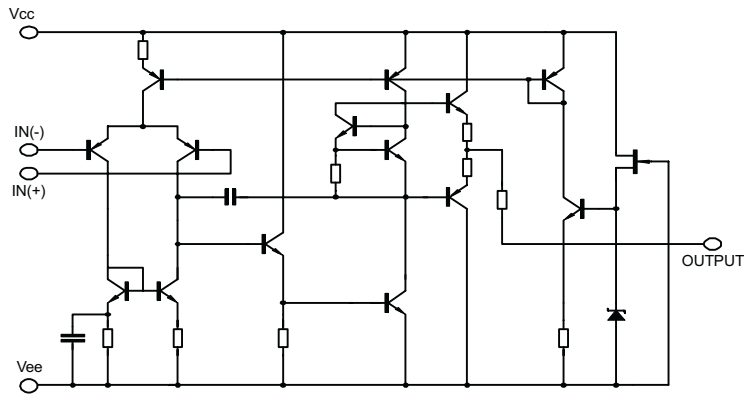
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BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	VALUE	UNIT
Supply Voltage	V _{cc}	22	V
Differential input voltage	V _{I(DIFF)}	18	V
Power Dissipation	P _D	DIP-8	600
		SOP-8	400
Input Voltage	V _I	15	V
Operating Temperature	T _{OPR}	0 ~ +70	C
Storage Temperature	T _{STG}	-65 ~ +150	C

ELECTRICAL CHARACTERISTICS (T_a=25 °C, V_{cc}=15V, V_{ee}=-15V)

PARAMETER	SYMBOL	TEST CONDUCTION	MIN	TYP	MAX	UNIT
Supply Current	I _{cc}			3.5	5.6	mA
Input offset voltage	V _{IO}	R _s <10kΩ		2	6	mV
Input offset current	I _{IO}			5	200	nA
Input bias current	I _{BIAS}			30	500	nA
Large signal voltage gain	G _v	V _{o(p-p)} =10V, R _L <2kΩ	20	200		V/mV
Common Mode Input Voltage Range	V _{I(R)}		+12	+13		V
Common Mode Rejection Ratio	CMRR	R _s <10kΩ	70	90		dB
Supply Voltage Rejection Ratio	PSRR	R _s <10kΩ	76	90		dB
Output Voltage swing	V _{o(p-p)}	R _L >10kΩ		+12	+14	V
Power Consumption	P _c			70	170	mV
Slew Rate	SR	V _i =10V, R _L >2kΩ, C _L <100pF	1.2			V/μs
Rise Time	T _{RIS}	V _i =20mV, R _L >2kΩ, C _L <100pF		0.3		μs
Overshoot	OS	V _i =20mV, R _L >2kΩ, C _L <100pF		15		%



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TYPICAL PERFORMANCE CHARACTERISTICS

Fig. 1 Burst Noise vs Rs

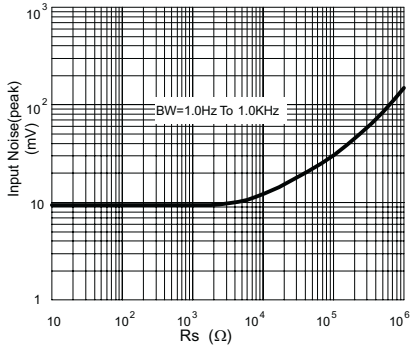


Fig. 2 RMS Noise vs Rs

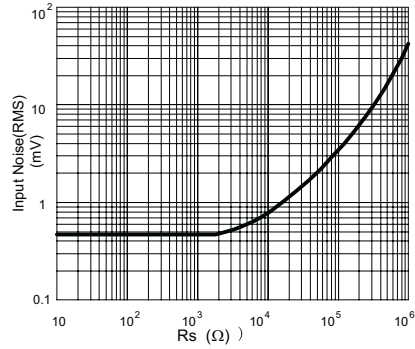


Fig. 3 Output Noise vs Rs

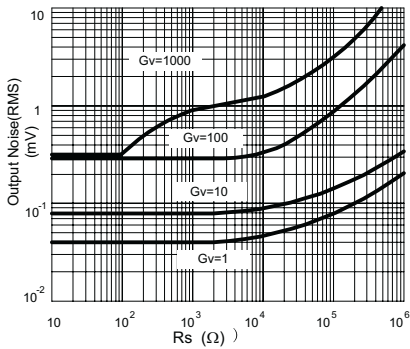


Fig. 4 Spectral Noise Density

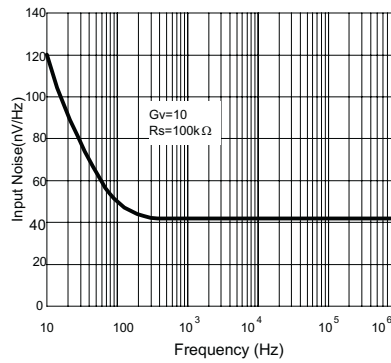


Fig. 5 Open loop frequency response

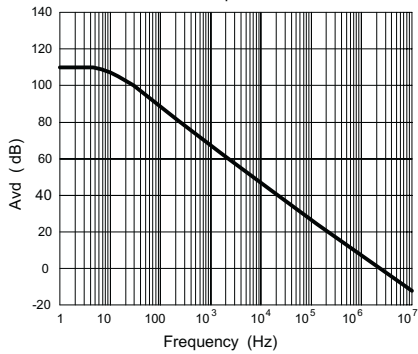


Fig. 6 PHASE MARGIN vs FREQUENCY

